

CLAIMS

1. Expression system, characterized in that it comprises successively, in the 5'-3' direction, a
5 nucleotide sequence encoding the dipeptide Asp-Pro and a nucleotide sequence encoding a toxic membrane protein or a domain of a toxic membrane protein.
2. Expression system according to Claim 1, in which the
10 toxic protein is a membrane protein or a domain of a membrane protein of a viral envelope.
3. Expression system according to Claim 2, in which the virus is chosen from the hepatitis C virus, the AIDS
15 virus, a virus that is pathogenic for humans, and a virus that is pathogenic for a mammal.
4. Expression system according to Claim 1, in which the toxic protein is a transmembrane protein or a domain of
20 a transmembrane protein of the hepatitis C virus.
5. Expression system according to Claim 1, in which the toxic protein is a protein of sequence ID No. 1 or ID
25 No. 2 of the attached sequence listing.
6. Expression system according to Claim 1, in which the nucleotide sequence encoding the toxic protein is chosen
from the sequence ID No. 3 and the sequence ID No. 4 of the attached sequence listing.
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7. Expression system according to Claim 6, in which the nucleotide sequence encoding the dipeptide Asp-Pro is gaccgcg.

8. Expression system according to Claim 1, also comprising, upstream of the Asp-Pro sequence, a nucleotide sequence encoding a soluble protein.
- 5 9. Expression system according to Claim 8, in which the soluble protein is glutathione S-transferase or thioredoxin.
- 10 10. Expression system according to Claim 1, encoding a fusion protein having a sequence chosen from the group consisting of the sequences ID No. 46, ID No. 47, ID No. 48, ID No. 49, ID No. 50 and ID No. 51 of the attached sequence listing.
- 15 11. Expression system according to Claim 8, said system having a sequence chosen from the group consisting of the sequences ID No. 34, ID No. 35, ID No. 36, ID No. 37, ID No. 38 and ID No. 39 of the attached sequence listing.
- 20 12. Bacterial expression vector comprising an expression system according to any one of Claims 1 to 11, cloned into a plasmid.
- 25 13. Bacterial expression vector comprising an expression system according to any one of Claims 1 to 9 and the oligonucleotide sequence of the pT7-7 plasmid.
- 30 14. Bacterial expression vector consisting of the sequence ID No. 44 or ID No. 45 of the attached sequence listing.
15. Bacterial expression vector comprising an expression system according to any one of Claims 1 to 7 and the

oligonucleotide sequence of a plasmid chosen from pGEXKT and pET32a.

16. Bacterial expression vector according to Claim 15,
5 consisting of a sequence chosen from the group consisting of the sequences ID No. 40, ID No. 41, ID No. 42 and ID No. 43 of the attached sequence listing.

17. Prokaryotic cell transformed with an expression
10 vector according to any one of Claims 12 to 16.

18. *E. coli* prokaryotic cell according to Claim 17.

19. Method for producing a toxic protein by genetic
15 recombination, comprising the following steps:

- transforming a host cell with an expression system according to Claim 1 or with an expression vector according to Claim 12,
- 20 - culturing the transformed host cell under culture conditions such that it produces a fusion protein comprising the dipeptide Asp-Pro followed by the peptide sequence of the toxic protein from said expression vector, and
- 25 - isolating said fusion protein.

20. Method according to Claim 19, also comprising a step consisting in cleaving said fusion protein so as to recover the toxic protein.

30 21. Method according to Claim 20, in which the step consisting in cleaving said fusion protein so as to recover the toxic protein is carried out by reacting formic acid on the fusion protein.

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22. Method according to Claim 19, in which the host cell is *E. coli*.

23. Method according to Claim 19, in which the
5 expression system encodes a fusion protein having a sequence chosen from the group consisting of the sequences ID No. 46, ID No. 47, ID No. 48, ID No. 49, ID No. 50 and ID No. 51 of the attached sequence listing.

10 24. Method according to Claim 19, in which the expression system has a sequence chosen from the group consisting of the sequences ID No. 34, ID No. 35, ID No. 36, ID No. 37, ID No. 38 and ID No. 39 of the attached sequence listing.

15 25. Method according to Claim 19, in which the expression vector consists of a sequence chosen from the group consisting of the sequences ID No. 40, ID No. 41, ID No. 42, ID No. 43, ID No. 44 and ID No. 45 of the
20 attached sequence listing.

26. Fusion protein having a peptide sequence chosen from the group consisting of the sequences ID No. 46, ID No. 47, ID No. 48, ID No. 49, ID No. 50 and ID No. 51 of
25 the attached sequence listing.